

Chemical Safety Data Sheet MSDS / SDS

N,N-Dimethylaniline

Revision Date:2026-06-27 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name : N,N-Dimethylaniline
CBnumber : CB6852937
CAS : 121-69-7
EINECS Number : 204-493-5
Synonyms : N,N-dimethylaniline,N,N-Dimethylanilin

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P201 Obtain special instructions before use.

Hazard statements

H411 Toxic to aquatic life with long lasting effects

H351 Suspected of causing cancer

SECTION 3: Composition/information on ingredients

Substance

Product name	: N,N-Dimethylaniline
Synonyms	: N,N-dimethylaniline,N,N-Dimethylanilin
CAS	: 121-69-7
EC number	: 204-493-5
MF	: C8H11N
MW	: 121.18

SECTION 4: First aid measures

General advice

First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting

Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products

Carbon oxides Nitrogen oxides (NO_x)

Specific extinguishing methods

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

NFPA 704

2
3 0

☒ HEALTH 3 Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

☒ FIRE 2 Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, [sulfur](#))

☒ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N₂](#))

☐ SPEC.
☐ HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage

Handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Avoidance of contact

Iron

Storage

Further information on storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class

6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Recommended storage temperature

Recommended storage temperature see product label.

Packaging material

Suitable material: Sure-Seal Bottles

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Engineering measures

No data available

Personal protective equipment

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter A-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection

protective clothing

Hand protection**Material**

butyl-rubber

Break through time

480 min

Glove thickness

0.7 mm

Protective index

Full contact

Manufacturer

Butoject® (KCL 898)

Material

Latex gloves

Break through time

60 min

Glove thickness

0.6 mm

Protective index

Splash contact

Manufacturer

Lapren® (KCL 706 / Aldrich Z677558, Size M)

Remarks

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: www.kcl.de).

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid (20 °C , 1,013 hPa)

Bioaccumulation is not expected.

Color

light yellow

Odor

unpleasant

Odor Threshold

No data available

pH

7.4 (20 °C)

Concentration: 1.2 g/l

Melting point/ range

1.5 - 2.5 °C

Method: lit.

Boiling point/boiling range

193 - 194 °C

Method: lit.

Flash point

75 °C

Method: DIN 51758, closed cup

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Flammability (liquids)

No data available

Burning rate

No data available

Upper explosion limit / Upper flammability limit

7 %(V)

Lower explosion limit / Lower flammability limit

1 %(V)

Vapor pressure

13 hPa (70 °C) 1 hPa (30 °C)

Relative vapor density

4.18

Relative density

0.956 g/mL at 25 °C (lit.)

Density

0.956 g/cm³ (25 °C)

Method: lit.

Water solubility

ca. 1 g/l

Partition coefficient: n-octanol/water

log Pow: 2.62

Autoignition temperature

317 °C

Decomposition temperature Viscosity: No data available

Viscosity, dynamic

1.2 mPa.s (30 °C)

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

No data available

Oxidizing properties

none

Surface tension

3.83 mN/m, 2.5 °C

Molecular weight

121.18 g/mol

Particle characteristics Particle size

No data available

Solubility

1.2g/l

Physical state

Liquid

Viscosity

6.78mm²/s

Henry's Law Constant

4.98(x 10⁻⁶ atmm³/mol) at 20 °C (approximate - calculated from water solubility and vapor pressure)

Dielectric constant

4.4000000000000004

SECTION 10: Stability and reactivity

Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Violent reactions possible with: Oxidizing agents acid halides anhydrides halogens acids

Conditions to avoid

Strong heating.

Incompatible materials

Iron

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 951 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Tremor.

Cyanosis

LC50 Inhalation - 4 h - 3.1 mg/l - vapour

LD50 Dermal - Rabbit - 1,692 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Test Type: Hamster

Test system: Lungs

Remarks: Micronucleus test

Test Type: Hamster

Test system: ovary

Remarks: Sister chromatid exchange

Species: Rat

Application Route: Intraperitoneal

Remarks: DNA damage

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

RTECS: BX4725000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.,

Damage to the eyes., Blood disorders, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

Ecotoxicity

Components:

N,N-dimethylaniline:

Toxicity to fish

LC50 (Pimephales promelas (fathead minnow)): 78.2 mg/l Exposure time: 96 h Test Type: flow-through test Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2.3 mg/l Exposure time: 48 h Remarks: (ECHA)

Toxicity to algae/aquatic plants

NOEC (Chlorella pyrenoidosa (algae)): 14 mg/l Exposure time: 72 h Test Type: static test Remarks: (ECHA)

Toxicity to microorganisms

EC50 (Tetrahymena pyriformis): 110 mg/l Exposure time: 24 h Remarks: (ECHA)

Persistence and degradability

Components:

N,N-dimethylaniline:

Biodegradability

Biotic/Aerobic Result: Readily biodegradable. Biodegradation: 75 % Exposure time: 28 d

BOD/ThOD

< 20 %

Bioaccumulative potential

Components:

N,N-dimethylaniline:

Bioaccumulation

Species: Oryzias latipes Bioconcentration factor (BCF): 13.6

Partition coefficient: noctanol/water

log Pow: 2.62 Remarks: Bioaccumulation is not expected.

Mobility in soil

Components:

N,N-dimethylaniline:

Stability in soil

Remarks: No data available

Other adverse effects

Components:

N,N-dimethylaniline:

Additional ecological information

Biological effects: When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected. Further information on ecology Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 2253

Proper shipping name : N,N-Dimethylaniline

Class : 6.1

Packing group : II

Labels : Division 6.1 - Toxic substances

Packing instruction (cargo aircraft) : 662

Packing instruction (passenger aircraft) : 654

IMDG-Code

UN number : UN 2253

Proper shipping name : N,N-DIMETHYLANILINE

Class : 6.1

Packing group : II

Labels : 6.1

EmS Code : F-A, S-A

Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

JT/T 617

UN number : UN 2253

Proper shipping name : N,N-DIMETHYLANILINE

Class : 6.1

Packing group : II

Labels : 6.1

Environmentally hazardous : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals

Hazardous Chemicals for Priority Management

Not applicable under SAWS

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals

Listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not applicable

Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals

Not listed

SECTION 16: Other information

Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA

8-hour, time-weighted average

ACGIH / STEL

Short-term exposure limit

GBZ 2.1-2007 / PC-TWA

Permissible concentration - time weighted average

GBZ 2.1-2007 / PC-STEL AIC - Australian Invent Transport by Land of Bra bw - Body weight; CMR Standard of the German List

(Canada); ECx - Conc associated with x% response Chemical Substances (Jap response; ERG - Emerge GLP - Good Laboratory Practice; IATA - International Construction and Equipment Half maximal inhibitory concentration; IECSC - Inventory of International Maritime Dangerous Goods; Industrial Safety and Health Standardisation; KECl - K-traction to 50 % of a test (Median Lethal Dose); MA - Pollution from Ships; MERC of Dangerous Goods; n.o. - No Observed (Adverse) Effect Level; NOELR - No Norm; NTP - National Toxicity; OECD - Organisation for Economic Co-operation and Development of Chemical Safety and Toxic substance; PIC - Practices; (Q)SAR - (Quantitative) Structure-Activity Relationship (EC) No 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals; Accelerating Decomposition of Chemical Substances in Thailand Existing Chemical States); UN - United Nations Transport of Dangerous Goods WHMIS - Workplace Hazardous Materials Information System

Permissible concentration - short term exposure limit of Industrial Chemicals

ANTT - National Agency for Toxic Substances

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN - Institute for Standardisation

DSL - Domestic Substances Notification associated with x% response

ELx - Loading rate

EmS - Emergency Schedule

ENCS - Existing and New Chemicals

ErCx - Concentration associated with x% growth rate of Response Guide

GHS - Globally Harmonised System

Practice

IARC - International Agency for Research on Cancer Transport Association

IBC - International Code for the Construction of Ships carrying Dangerous Chemicals in Bulk

IC50 - Concentration

ICAO - International Civil Aviation Organization- Existing Chemical Substances in China

IMDG - International Maritime Dangerous Goods

IMO - International Maritime Organisation

ISHL - Health Law (Japan)

ISO - International Organisation for Standardisation Existing Chemicals Inventory

LC50 - Lethal Concentration

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of Pollution from Ships - SUR - The Agreement for the Facilitation of the Transport of Dangerous Goods - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC - Effect Concentration

NO(A)EL - No Observed (Adverse) Effect Loading Rate

NOM - Official Mexican Nomenclature Program

NZIoC - New Zealand Inventory of Chemicals for Economic Co-operation and Development

OPPTS - Office of Pollution Prevention and Control

PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances) Structure Activity Relationship

REACH - Regulation European Parliament and of the Council concerning the Restriction and Regulation of Chemicals

SADT - Self-heating Temperature

SDS - Safety Data Sheet

TCSI - Taiwan Chemical Safety Information

TDG - Transportation of Dangerous Goods

TECI - Toxicity Inventory

TSCA - Toxic Substances Control Act (United States)

UNRTDG - United Nations Recommendations on the goods

vPvB - Very Persistent and Very Bioaccumulative

ous Materials Information System

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.